

# SMM 21103 L

## High Contrast Gray Scale Monitor



- CRT with anti-reflective and anti-static panel and dispenser cathode for long CRT life
- Automatic calibration of black level without external sensor, 20 minutes after power on and every 12 hours
- Constant Gamma for equal gray scale performance in multi monitor configurations, also over complete lifetime of CRT
- High contrast and brightness/ high resolution CRT, up to 235 fL (800 cd/m<sup>2</sup>), front-of-screen luminance through 32 % total transmission
- 1600 x 1280 addressability standard
- Scan range of 30 to 92 kHz horizontal and 50 to 120 Hz vertical
- Microprocessor control of all internal monitor functions
- Front panel brightness, contrast and geometry controls are standard and can be disabled for calibrated diagnostic applications
- Front panel control for image rotation
- Ambient light sensor for automatic contrast control

# display SOLUTIONS

Siemens SMM-Series of gray scale monitors is designed to meet the demanding requirements of Medical Diagnostic Imaging.

The monitor features high resolution at high luminance with low background levels for wide dynamic range.

The internal microprocessor controls all electrical and magnetic monitor functions, and continuously adjusts drive

levels to maintain constant luminance during warm up and over long life of the CRT depending on the environmental light conditions. For each format stored, the dynamic focus ensures optimal sharpness at any point of the screen. All formats are stored internally, including a full set of screen settings for each. Formats are selected and modified through the RS 232 serial port.

# SIEMENS

# SMM 21103 L

## High Contrast Gray Scale Monitor

Technical Data	
<b>Power requirements</b>	
Input voltage	94 to 264 V Wide range power supply
Power frequency	47 to 63.6 Hz
Power consumption	Approx. 150 W
Power factor control	According to EN 61 000
Power saving	According to VESA DPMS
<b>CRT specifications</b>	
Size	54 cm / 21", flat & square (landscape)
Deflection angle	90 °
Light transmission	32 %
Phosphor type	P45, cadmium free
Surface	Multicoated conductive panel (AR/AS)
Gun system	Dispenser cathode (long life)
Focus	Static and dynamic
<b>General performance</b>	
Horizontal frequency	30 to 92 kHz
Vertical frequency	50 to 120 Hz
Formats	19 max., self recognizing and auto-scaling
<b>Video amplifier, inputs</b>	
Type	High contrast, high resolution supports 280 MHz pixel-clock
Connectors	BNC type
Impedance	75 Ω
Video level	0.75 to 1.2 V <sub>pp</sub>
Sync level	0.1 to 0.6 V <sub>pp</sub>
<b>Front panel controls</b>	
Controls	Power on/off, contrast, brightness
Geometry	H/V-phase, H/V-amplitude, pin & barrel, image rotation
Ambient light sensor	For automatic contrast control

<b>Display performance</b>	
Display area (W x H) in mm	400 x 300
Non-linearity	< 2 %
Raster stability	0.05 mm max. swim & jitter
Maximum luminance	P45: ≥ 235 fL @ 0.7 V <sub>pp</sub> input signal
High voltage regulation	0.2 % max. size change
<b>Operation conditions</b>	
Temperature	
- Operating	10 °C to 35 °C, up to 40 °C with some restrictions
- Storage	-25 °C to +70 °C
Humidity, rel.	
- Operating	20 % to 80 %
- Storage	20 % to 80 %
<b>Mechanical specifications</b>	
Dimensions (W x H x D) in mm	499 x 483 x 520
Weight	Approx. 33 kg
<b>Approvals</b>	
Safety	EN 60 950, UL 1950, cUL, DHHS
EMC	
- Emission	FCC Class A, MPR II, EN 60 601-1-2 Class B
Others	CE Mark Medical Device Class I EN ISO 9001, EN ISO 13 485 certified plant
<b>Options</b>	
- OEM versions	
- Other phosphors available	
Miscellaneous	Customer specific labeling available
<b>Ordering data</b>	
SMM 21103 L	<b>Order No.</b> 6GF6300-1BD